# Saeid Balaneshin-kordan

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## EDUCATION

*PhD in* ***Computer Science***, August 2013–April 2018
Wayne State University, Detroit, Michigan
Cum. GPA: 3.97 / 4.0
Thesis: A Hybrid **Deep Neural Network** Architecture in **Multi-modal Retrieval** Systems

*MSc in* ***Computer Science***, August 2013–April 2018
Wayne State University, Detroit, Michigan
Cum. GPA: 3.97 / 4.0
Thesis: A Unified Approach to Utilize General-purpose and Domain-specific **Knowledge-bases** in **Clinical Decision Support** Systems

*MSc in* ***Telecommunication Engineering***, September 2009 - November 2011
Iran University of Science and Technology, Tehran, Iran
Cum. GPA: 3.60 / 4.0
Thesis: A Blind Spectrum Sensing method for Cognitive Radio Systems

*BSc in* ***Telecommunication Engineering***, December 2005–September 2009
Urmia University, Urmia, Iran
Cum. GPA: 3.20 / 4.0
Capstone Project: An Efficient Telemetry System for Water Distribution Systems

## SKILLS

**Programming Languages:** Python, Java, C++, R, Bash, C, Julia, Matlab, LaTeX, JavaScript, C, HTML.
**Libraries:** TensorFlow, NumPy, scikit-learn, SciPy, Pandas, ggplot2, Jupyter Notebook, PySpark.
**OS:** Linux, Windows, OS X.
**Other:** Indri, Galago, Django, MongoDB, MySQL, Bootstrap, AWS, Git.

## EXPERIENCE

**Instructor and Teacher Assistant** August 2013–Present
Wayne State University, Detroit, MI

- Senior Project (Capstone Course) and Computer Ethics (Winter 2017).
- Information Retrieval Systems (2015-2016).
- Computer Science I and II (2014-2016).
- Operating Systems (2015-2017).
- Web Design (Summer School 2014).
- Introduction to C++ programming Language (Spring 2014).
- Linear Networks and System Analysis (2014).

**Research Assistant** August 2013–Present
Wayne State University, Detroit, MI

- Working on **Deep Neural Networks** in **Multimodal Retrieval Systems** (1 papers will be submitted to CIKM'17).
- Working on **Neural Networks** in **Textual Information Retrieval Systems** (1 papers will accepted in SIGIR'17 and 1 paper published in ICTIR'16).
- Worked on **Sequential Detection** in **Concept Graphs** (1 paper published in CIKM'16).
- Worked on **Optimization** Frameworks in **Information Retrieval** Systems (1 paper published in ICTIR'16).
- Worked on **Topic Modeling** in **Information Retrieval** Systems (1 paper published in ICTIR'16).
- Worked on **Knowledge-based** Query Expansion in **Clinical Decision Support** Systems (won three competitions in TREC-CDS'15).
- Worked on **Sequential Detection**, **Quickest Search** and **Change Point Detection** algorithms in **Cognitive Networks** and **Social Media** (1 paper accepted in ISCCSP'14 and 1 workshop in ITA'14).

**Research Intern** November 2011–December 2011
Technical University of Dresden, Dresden, Germany

- Worked on **Matlab Simulink** Model Development for the project "dependence of rotor current in doubly-fed induction generator on different grid voltage faults and operation points."

**Teacher Assistant** August 2011–May 2012
Iran University of Science and Technology, Tehran, Iran

- Telecommunications I (Fall 2010).
- Introduction to MATLAB (Winter 2011).

**Technical Director** 2008–2010
Basamad Pardaz System Co (Startup Company), Urmia, Iran

- Worked on Atmel AVR, GSM and RF transceivers for design, development and installation of telemetry systems for water distribution networks.

## AWARDS

- Arshia Sioshansi's Merit Award, March 2017.
- Andrzej Olbrot Travel Award for **Excellence in Graduate Student Research** 2016-2017 (Fall 2016).
- **SIGIR Student Travel Grant** to attend **CIKM'16** (Summer 2016).
- **SIGIR Student Travel Grant** to attend **ICTIR'16** (Spring 2016).
- Two first-place and one second-place awards at the **Text REtrieval Conference (TREC)** Clinical Decision Support (CDS) Track (Summer 2015).
- First-place in *Student Evaluation of Teaching* (SET) in CS dept (Fall 2014).
- Distinguished MSc thesis Award from Iran Telecommunication Research Center (Fall 2011).

## PATENTS

- An Economically Efficient Telemetry System for Rural Water Networks (Iranian National Patent)

## PUBLICATIONS

1. "Semantically Enriched Markov Random Field Retrieval Model." In **SIGIR'17** IR Neural Networks.
2. "Sequential Query Expansion using Concept Graph." In **CIKM'16** IR Optimization Sequential Analysis.
3. "A Study of Document Expansion using Translation Models and Dimensionality Reduction Methods." In **ICTIR'16** IR Neural Networks Topic Modeling Translation Models.
4. "Optimization Method for Weighting Explicit and Latent Concepts in Clinical Decision Support Queries." In **ICTIR'16** IR Optimization Clinical Decision Support.
5. "WSU-IR at TREC 2015 Clinical Decision Support Track: Joint Weighting of Explicit and Latent Medical Query Concepts from Diverse Sources" in **TREC'15** IR Optimization Clinical Decision Support.
6. "An Empirical Comparison of Term Association and Knowledge Graphs for Query Expansion." In **ECIR'16** IR.
7. (second author) "A New Algorithm for Joint Sensing and Power Allocation in Multiuser Cognitive Radio Networks." In **WPMC'11** Optimization ICA.
8. "Finite-horizon Quickest Search in Correlated High-dimensional Data." In **ISCCSP'14** Sequential Analysis ICA.
9. "Blind spectrum sensing for cognitive radio based on complexity measurement." In **ICEE'11** ICA.
10. (Journal Paper) "A Novel Blind Spectrum Sensing Algorithm for Cognitive Radio Systems Based on Algorithmic Information Theory.", In **IJICT'11** ICA.
11. "A New Fast Algorithm for Carrier Frequency Offset Estimation in SISO-OFDM Systems." In **IST'10** ICA.
12. (Third Author) "A Novel Wideband Spectrum Sensing Algorithm for Cognitive Radio Networks based on DOA Estimation Model." In **IST'12** ICA.
13. (Journal Paper- third author) "A Blind Carrier Frequency Offset Estimation Scheme for OFDM Systems via Hybrid-ICA Algorithm." In **IJECE'14** ICA.

## REFERENCES

- Alexander Kotov, Assistant Professor, Computer Science Department, Wayne State University, Email: kotov@wayne.edu, Tel: (313) 577-9307
- More references available upon request.